KOSTARCHUK, Viktor Nikolayevich[Kostarchuk, V.M.]; KHATSET, Boris Isaakovich; KOPERSAK, G.D.[Kopersak, H.D.], red.; VOLKOVA, N.K., tekhn. red.

[What is possible and what is not possible in geometry using compass and ruler]Pro mozhlyve i nemozhlyve v gsometrii tsyrkulia i liniiky. Kyiv, Radians'ka shkola, 1962. 124 p. (MIRA 16:1)

(Geometry)

KHATSET, F. I.: ~~Master~~ Cand. Chem Sci (diss) -- "The effect of the structure of silica gels on the distribution of mixtures of vapors". Leningrad, 1958. 16 pp (Min Higher Educ USSR, Leningrad Tech Inst im Leningrad Soviet), 100 copies (KL, No 3, 1959, 108)

KNYAZYUK, K.A.; KHATSET, F.I.; GARKAVENKO, I.P.

Utilizing cold compounds for soil stabilization. Avt. dor. 22 no.9: 6-8 S '59. (MIRA 12:12)
(Soil stabilization) (Bituminous materials)

NEUMARK F. I.

April 1947

USSR/Silica Gels
Surface Tension

"Effect of Surface Tension of the Coagulant Upon the Formation of the Internal Structure of Silica Gels," I. A. Neumark, F. I. Khatzet, Laboratory of Adsorption Processes, Institute of Physical Chemistry imeni L. V. Pisarzhevskiy, Academy of Sciences, USSR, 9 pp

"Kolloidnyy Zhurnal" VOL IX, No 4

Discussion of experimental data, with tables and graphs. Concludes that the surface tension has a considerable effect; the lower the tension, the more coarsely porous types of silica gels are formed, etc. Submitted 20 Dec. 1946. Assistance from Academician P. A. Rubinin and Prof. N. V. Belyakov.

PA 17783

USSR/Chemistry - Silica, Colloidal, Sorption Aug 48

Chemistry - Silica, Colloidal, Structure

"The Sorption Properties and Structure of Silica Gels," I. Ye. Neymark, F. I. Khatset, R. Yu. Sheynfayn, Inst Phys Chem imeni L. V. Pisarzhevskiy, Acad Sci Ukrainian SSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXI, No 6

PA 35/49T4

Studies in authors' laboratory show that conditions of dehydration have decisive influence on gel structure, and pore size of silica gels affects their adsorption capacity. Used samples prepared by previously reported method, based on change in surface

35/49T4

USSR/Chemistry - Silica, Colloidal, Sorption (Contd) Aug 48

tension of the intermicellar liquid of the gel in process of its dehydration. Pore size was estimated from data of adsorption and desorption of methyl alcohol vapors on evacuated gel samples and of maximum adsorption of aliphatic alcohols from carbon tetrachloride solution. Describes series of samples with increasing pore size. Discusses applicability of M. M. Dubinin's formula to adsorption isotherms for the samples studied. Submitted by Acad M. M. Dubinin, 23 Jun 48.

35/49T4

KHATSET, F. I.

NEYMARK, I.E.; KHATSET, F.I.

Role of the structure of adsorbents in molecular chromatography of vapors. Dop. AN URSR no.2:24-29 '49. (MLRA 9:9)

1. Institut fizichnoi khimii im. L.V. Pisarzhevs'kogo AN URSR. Predstaviv diysniy chlen AN URSR O.I. Brods'kiy.
(Vapors) (Chromatographic analysis)

CA

The phase state of a substance in the adsorbed layer. I. E. Neimark and R. I. Khatret (Inst. Acad. Sci. Ukr. S.S.R., Kiev). *Doklady Akad. Nauk S.S.S.R.* 74, 751–4 (1950).—The controversial question of the state of aggregation of a vapor physically adsorbed on a solid surface was decided by detns. of the compn. of the mixt. adsorbed from a binary mixt., as compared with the compns. of the liquid and of the vapor phases of that mixt. The answer depends on the type of the porosity of the sorbent. Three types of silica gel, (I) finely porous, (II) medium-porosity, and (III) coarsely porous, preliminarily heated to 400°, were exposed to mixed vapors of C_6H_6 + CCl_4; the substance adsorbed was desorbed at 400° until const. wt., and its compn. was detd. On type I, the compn. (at high surface coverage) was found to correspond to that of the vapor, on III mainly to the liquid phase, whereas on II it is intermediate between the two. Consequently, on I the adsorbed substance is gaseous, on III liquid, and on II partly gaseous and partly liquid. At low surface coverages, the adsorbed substance is gaseous in all cases, and, on I, it remains gaseous over the whole range of coverages. On II and on III, the liquid phase appears at a definite coverage, the later the coarser the porosity, e.g. at 0.15 cc./g. on II, and at 0.347 cc./g. on III, and its amt. increases with increasing coverage. Absence of selective adsorption of C_6H_6 from the C_6H_6 + CCl_4 mixt. is demonstrated by the constancy of the C_6H_6 content in the substance desorbed from different types of silica gel and its identity with the azeotropic compn. Accordingly, the liquid C_6H_6 + CCl_4 mixt. is not sepd. by filtration through a column of silica gel. In contrast thereto, C_6H_6 is selectively adsorbed on silica gels of type I from a mixt. C_6H_6 + C_6H_{12}, i.e. a mixt. of mols. of distinctly different sizes. The view ascribing all phys. adsorption to capillary condensation is erroneous; it does not apply at all to finely-porous sorbents, and for coarsely porous sorbents it is true only at sufficiently high surface coverages. Capillary condensation develops when unimol. adsorption is followed by the build-up and merging of multimol. layers in a capillary, and will occur the later the greater the diam. of the pore.

N. Thon

DUBININ, M.M., akademik, otvetstvennyy redaktor; GAPON, Ye.N.; GAPON, T.B.; ZHYPAKHINA, Ye.S.; RACHINSKIY, V.V.; BELEN'KAYA, I.M.; SHUVAEVA, G.M.; ROGINSKIY, S.Z.; YANOVSKIY, N.I.; FUKS, N.A.; KISELEV, A.V.; NEYMARK, I.Ye.; SLINYAKOVA, I.B.; KHATSET, F.I.; LOSEV, I.P.; TROSTYANSKAYA, Ye.B.; TEVLINA, A.S.; DAVANKOV, A.B.; SALDADZE, K.M.; BRUMBERG, Ye.M.; ZHIDKOVA, Z.V.; VEDENEEVA, N.Ye.; NAPOL'SKIY, S.A.; MIKHAYLOVA, Ye.A.; KAZANSKIY, B.A.; RYABCHIKOV, D.I.; SHEMYAKIN, F.M.; KRETOVICH, V.L.; BUNDEL', A.A.; GAVINOV, B.G.; VENDT, V.P.; EPSHTEYN, Ya.A.

[Research in the field of chromatography transactions of the All-Union Conference on Chromatography, November 21-24, 1950] Issledovaniia v oblasti khromatografii; trudy Vsesoiuznogo soveshchaniia po khromatografii, 21-24 noiabria 1950 g. Moskva, Izd-vo Akademii nauk SSSR, 1952. 225 p. (MLRA 6:5)

1. Akademiya nauk SSSR. Otdelenie khimicheskikh nauk.
(Chromatographic analysis)

KHATSET, F. I.

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
General and Physical Chemistry

(1)

The role of structure of adsorbents in molecular chromatography. L. F. Schmark, L. H. Spivakova, and F. I. Khatset. *Izsledovaniye v Oblasti Khromatografii, Tsentr. Vsesoyuz. Soveshchaniye Khromatogr., Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1950, 98-102(Pub. 1952).--Adsorption of C_2H_4 from solns. in heptane by SiO_2 gel specimens with high or low degrees of porosity showed that selective adsorption of C_2H_4 takes place only with fine porosity specimens. By repeated adsorption-desorption cycles complete sepn. was readily achieved. The micro surface area of the adsorbent does not establish the sepn. activity of a given specimen of an adsorbent; the pore structure is the important factor.

G. M. Kosolapoff

11-11-54

KNYAZYUK, K.A.; KHATSET, F.I.; CHOBOROVSKAYA, I.S.

Use of heterogeneous soil stabilizing compounds. Avt. dor. 22 no.10:13-15 O '59. (MIRA 13:2)
(Ukraine--Soil stabilization)

KNYAZYUK, K.A., kand.tekhn.nauk; KHATSET, F.I., kand.tekhn.nauk

Using filter-press waste for soil stabilization. Avt.dor. 25 no.3: 15-16 Mr '62. (MIRA 15:3)

(Soil stabilization)

ATSUTA, R.V.; KHATSET, F.I.; CHOBOROVSKAYA, I.S.

Precise methods of testing soil mixes with organic binding materials. Avt. dor. 27 no.4:20 Ap '64. (MIRA 17:9)

Alexander Mikhailovich Krivisskii is 60 years old. Ibid.:19

KNYAZYUK, K.A., kand.tekhn.nauk; KHATSET, F.I., kand.tekhn.nauk

Overall soil stabilization using filter-press waste materials and organic binders. Avt.dor.i dor.stroi. no.1:164-170 '65. (MIRA 18:11)

KHATSET, I.E.; BENNER, D.P.; BURSHTEYN, I.M.; TUROVSKIY, B.I., red.; NEMCHENKO, I.Ye., tekhn.red.

[Rights and duties of people building their own dwellings] Prava i obiazannosti individual'nykh zastroishchikov. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit.USSR, 1958. 158 p. (MIRA 12:8)

1. Konsul'tatsionnoye byuro Prezidiuma Kiyevskoy oblastnoy kollegii advokatov (for Khatset, Burshteyn). 2. Glavnyy arbitr Ministerstva stroitel'stva Ukrainskoy SSR (for Benner).
(Building--Contracts and specifications)

PROCESSES AND PROPERTIES INDEX

The effect of antioxidants on the aging of oil films. V. S. Kiselev and V. E. Khatart. *J. Chem. Ind.* (*Moscow*) 1933, No. 3, 31-43.—Individual antioxidants affect drying to different extents, but in large amts. all slow down the rate of drying. A few, in small amts., hasten this rate. All their actions occur during the first part of the drying, and so no effect is noted on the length of life of the pigments. Antioxidants may be used to prevent the thickening of enamels and to alter the rate of increase of viscosity of oils. H. M. Leicester

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

[illegible]

[illegible] Kaczy, Ya. M., Lyagushenko, [illegible]

[illegible] Ex[illegible] inert gases [illegible]
[illegible]ges, [illegible] Neon

SOURCE: Optika i spektroskopiya, v. 14, no. [illegible]

TOPIC TAGS: electric discharges in gases, Ne

ABSTRACT: The investigation was undertaken [illegible] data [illegible]

Card 1/2

L 9846-63
ACCESSION NR: AP3000576

[illegible]

[illegible]

[illegible]TED: 28Sep[illegible] DATE ACQ: [illegible] ENCL [illegible]

[illegible] CODE PH NR REF SOV: [illegible] OTHER [illegible]

[illegible]

Card 2/2

KUBAL'SKIY, A.P., inzhener; KHATSEVICH, L.I.; OGANOV, S.I.

Practice of manufacturing reinforced concrete supports in the Tiflis Technical Communication Line Center. Vest.sviazi 16 no.2:22-23 F '56. (MLRA 9:7)

1.Tbilisskiy DRTS (for Kubal'skiy).2.Starshiy tekhnik DRTS (for Khatsevich). 3.Starshiy inzhener GUMTTS Ministerstva svyazi SSSR.
(Tiflis--Electric lines--Poles)

KARPENKO, V.V., kand.tekhn.nauk, dotsent; KHATSINOV, N.I., kand.tekhn. nauk, dotsent

Mechanization of grain cleaning and drying barns. Nauch. zap. KHIMSKH no. 11 Fak. mekh. sel'khoz. 1:27-39 '58. (MIRA 14:3)
(Grain-handling machinery)

KARPENKO, V.V., kand.tekhn.nauk; KHATSINOV, M.I., kand.tekhn.nauk; TVERSKOY, M.I. [Tvers'koi, M.I.], kand.tekhn.nauk; ZUBKOVA, A.S., inzh.

Grip for removing ensilage. Mekh. sel'. hosp. 9 no.9:20-21 S '58. (MIRA 11:10)

(Hoisting machinery) (Ensilage)

DABAGYAN, Areg Vagarshakovich, doktor tekhn.nauk, dotsent; KHATSINOVA, Ella Naumovna, inzh.

Concurrent electromechanical oscillations of the rotors of turbogenerators and hydrogenerators during steady state nonsymmetrical operation. Izv. vys. ucheb. zav.; elektromekh. 5 no.12:1408-1412 '62. (MIRA 16:6)

1. Khar'kovskiy politekhnicheskiy institut (for Dabagyan).
2. Khar'kov'skiy zavod tyazhelogo elektromashinostroyeniya (for Khatsinova).

(Electric power distribution) (Turbogenerators)

BELOVOL, A.M.; KHATSINSKAYA, A.P.

Workers of the Korenovskaya Sugar Factory are well prepared for the busy season. Sakh. prom. 35 no.12:11-12 D '61. (MIRA 15:1)

1. Korenovskiy sakharnyy zavod.
(Korenovskaya--Sugar industry)

EWP(q)/EWT(m)/BDS

4

Card 2/2

KHATSIREVICH, I.Kh.

Numerical sequences. Limits of numerical sequences. Uch.zap.Chkal. gos.ped.inst.no.9:285-322 '56. (MLRA 10:3)
(Numbers, Theory of)

124-58-9-10257

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 122 (USSR)

AUTHOR: Khatsirevich, I. Kh.

TITLE: On a Method for the Solution of the Plane Problem of the Theory of Elasticity for an Infinite Multiply Connected Region (Ob odnom metode resheniya ploskoy zadachi teorii uprugosti dlya beskonechnoy mnogosvyaznoy oblasti)

PERIODICAL: Uch. zap. Chkalovskiy gos. ped. in-t, 1957, Nr 11, pp 221-227

ABSTRACT: A method is given for the first fundamental problem of the theory of elasticity for an infinite multiply connected region. Kolosov's functions $\varphi(z)$ and $\psi(z)$ are sought in the form

$$\varphi(z) = \frac{1}{2\pi i}\int_L \omega'(t)\ln(t-z)\,ds + \sum_{j=1}^{m} a_j \ln(z-z_j) + \sum_{j=1}^{m}\frac{b_j}{z-z_j} \qquad (1)$$

Card 1/2

124-58-9-10257

On a Method for the Solution of the Plane Problem (cont.)

and

$$\psi(z) = -\frac{1}{2\pi i}\int_L \overline{\omega(t)} \ln(t-z)\,ds - \\ -\frac{1}{2\pi i}\int_L \frac{\omega(t)\bar{t}}{t-z}\,ds + \sum_{j=1}^{m} \frac{b_j}{z-z_j} \qquad (2)$$

The author obtains an integral equation for the unknown function $\omega(t)$, for which he demonstrates the existence and uniqueness of a solution. The representation of the stress functions by means of formulas (1) and (2) assumes that the stresses go to zero at infinity.

V. I. Mossakovskiy

1. Elasticity--Theory 2. Mathematics--Applications

Card 2/2

KHATSIREVICH, M. (g.Prokop'yevsk Kemerovskoy oblasti)

Simple method for a laboratory synthesis of silver nitrate. Khim. v shkole 15 no.6;81 N-D '60. (MIRA 13:11)
(Silver nitrate)

KHATCHERNICH, M. G.

Bee Culture

Winter care of bees. Pchelovodstvo 30, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

KHATSIREVICH, M.G., uchitel'

School collection of minerals and products obtained from them, exhibited in glass-enclosed cases. Khim.v shkole 15 no.1: 85-87 Ja-F '60. (MIRA 13:5)

1. Srednyaya shkola No.18 goroda Prokop'yevska.
(Mineralogy--Collecting of specimens)

ZIKEYEVA, A.I.; KREPKOGORSKAYA, T.A., doktor meditsinskikh nauk; KHATSKELES, A.Ya.

Pathomorphology of experimental leptospiral fever induced by Leptospira of the Kazakhstan type. Vest.AN Kazakh.SSR 17 no.4:29-37 Ap '61. (MIRA 14:5)

(Kazakhstan—Leptospirosis)

ZIKEYEVA, A.I., dotsent; KHATSKELES, A.Ya.

Causes of death among middle aged and aged subjects. Zdrav. Kazakh. 22 no.3:33-39 '62. (MIRA 15:12)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. P.P.Ochkur) Kazakhskogo meditsinskogo instituta.
(DEATH--CAUSES) (AGED)

KHATSKELEVICH, M.N.; MELENT'YEV, A.A.; SIBAROV, V.D.; SERGEYEV, Ye.S., redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Problems of improving the technical aspects of shunting station operations] Voprosy uluchsheniia tekhnologicheskikh protsessov raboty sortirovochnykh stantsii. Moskva, Gos. transp. zheleznodorozh. izd-vo, 1952. 230 p. [Microfilm] (MLRA 7:11)

(Railroads--Making up trains)

AKSENOV, I.Ya.; SUYAZOV, I.G.; GORODNICHEV, N.G., redaktor; KHATSKEVICH, M.N., redaktor.

[Manual for learning rules of the technical operation of railroads in the Soviet Union] Posobie dlia izucheniia pravil tekhnicheskoi ekspluatatsii zheleznykh dorog Soiuza SSR. 7 izd., perer. i dop. Moskva, Gos. transp. i shel-dor izd-vo, 1954. 614 p.
(Railroads) (MLRA 7:8)

AKSENOV, Ivan Yakovlevich; SUYAZOV, Ivan Grigor'yevich; KHATSKELEVICH, M.N., redaktor; TSARENKO, A.P., redaktor; VERINA, G.P., tekhnicheskiy redaktor

[A manual for the study of the principles of the technical operation of Soviet railroads] Posobie dlia izucheniia pravil tekhnicheskoi ekspluatatsii zheleznykh dorog Soiuza SSR. Izd. 2-oe, perer. i dop. Moskva, Gos. transp.zhel-dor. izd-vo, 1956. 482 p. (MIRA 10:1)
(Railroads--Management)

KHATSKELEVICH, M.N., inzh.

New engineering specifications for railroads in the U.S.S.R.
Zhel. dor. transp. 41 no.4:9-15 Ap '59. (MIRA 12:6)
(Railroads--Specifications)

KHATSKELEVICH, M.N., otv. za vypusk; VERINA, G.P., tekhn.red.

[Rules for the technical operation of railroads in the U.S.S.R.] Pravila tekhnicheskoi ekspluatatsii zheleznykh dorog Soiuza SSR. Moskva, Gos.transp.zhel-dor.izd-vo, 1960. 145 p. (MIRA 13:4)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. (Railroads--Management)

KHATSKELEVICH, M.N., otv. za vypusk; VERINA, G.P., tekhn.red.

[Regulations on railroad signaling in the U.S.S.R.] Instruktsiia po signalizatsii na zheleznykh dorogakh Soiuza SSR. Moskva, Gos.transp.zhel.-dor.izd-vo, 1960. 172 p. (MIRA 13:7)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. (Railroads--Signaling)

OSIPOV, S.I., inzh.; KHATSKELEVICH, M.N., inzh.

Replies to readers' questions. Elek.i tepl.tiaga 4 no.1:45 Ja '60. (MIRA 13:4)
(Railroads--Maintenance and repair)

DANILOV, V.I., inzh.; KHATSKELEVICH, M.M., inzh.; CHERNYSHEVICH, F.I., inzh.

Reply to the inquiries of our readers. Elek. i tepl. tiaga 4 no.5: 44 My '60. (MIRA 13:7)
(Electric railway motors) (Railroads--Signaling)

KONOVALOV, N.A.; DANILOV, V.I., inzh.; KHATSKELEVICH, M.N., inzh.

Reply to the inquiries of our readers. Elek.i tepl.tiaga. 4 no.6:42-43 Je '60. (MIRA 13:8)

1. Master motorno-apparatnogo tsekha depo Moskva III Moskovskoy dorogi.

(Electric locomotives--Maintenance and repair)
(Diesel locomotives)
(Railroads--Signaling)

GORN, V.N., inzh.; KLIMOV, N.N., inzh.; DANILOV, V.I., inzh.; KHATSKELEVICH, M.N., inzh.

Reply to the inquiries of our readers. Elek. i tepl. tiaga 4 no. 9:44 S '60. (MIRA 13:12)

(Railroads--Signaling) (Diesel locomotives)

KHATSKELEVICH, M.N., inzh.; DANILOV, V.I., inzh.

Reply to the inquiries of our readers. Elek. i tepl. tiaga 4 no.11: 42 N '60. (MIRA 13:12)

(Railroads--Signaling)

BAKSHTANSKAYA, R.S.; KHATSKELEVICH, M.N., nauchnyy tekhn. red.; RODOVSKAYA, M.V., otv. za vypusk; VOROTNIKOVA, L.F., tekhn. red.

[Mechanization and automation in the classification yards of U.S.S.R. and foreign railroads; bibliographic index of Soviet literature published from 1955 to 1960] Mekhanizatsiia i avtomatizatsiia na sortirovochnykh stantsiiakh zheleznykh dorog v SSSR i za rubezhom; bibliograficheskii ukazatel' otechestvennoi literatury 1955-1960 gg. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 14 p. (MIRA 14:10)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. TSentral'naya nauchno-tekhnicheskaya biblioteka.
(Bibliography--Railroads--Yards) (Automatic control)

KHATSKELEVICH, M.N., inzh.; FAYNGOL'D, I.Ya., inzh.; BOROVSKIY, G.M., kand.tekhn.nauk; KLIMOV, N.N., inzh.

Replies to the inquiries of our readers. Elek. i teplo. tiaga 5 no.5:43 My '61. (MIRA 14:7)

(Railroads--Signaling)
(Diesel locomotives--Maintenance and repair)

YURCHENKO, I.F.; GORN, V.N., inzh.; KLIMOV, N.N., inzh.; KHATSKELEVICH, M.N., inzh.

Replies to the inquiries of our readers. Elek. i tepl. tiaga 5 no.8:42-44 Ag '61. (MIRA 14:9)

1. Nachal'nik Upravleniya truda, zarplaty i tekhniki bezopasnosti Ministerstva putey soobshcheniya (for Yurchenko).
(Railroads—Brakes) (Locomotives)

~~KHATSKELEVICH, M.N.~~, inzh.; ZAV'YALOV, G.N.; NOVIKOV, A.V., inzh.; OZOLIN, A.K., inzh.; LAPIN, V.B., inzh.; DANILOV, V.I., inzh.

Replies to the inquiries of our readers. Elek.i tépl.tiaga 5 no.9:45-46 S '61. (MIRA 14:10)

1. Glavnyy tekhnolog po avtotormozam Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey sooshcheniya (for Zav'yalov).

(Railroads—Brakes) (Diesel locomotives)
(Insulating oils)

RADCHENKO, V.D., kand.tekhn.nauk; PERTSOVSKIY, L.M., inzh.; KHATSKELEVICH, M.N., inzh.; KLIMOV, N.N., inzh.; GROMOV, S.A., ~~kand.tekhn.nauk~~

Answering readers' queries. Elek.i tepl.tiaga 5 no.11:43-44 N '61. (MIRA 14:11)

(Electric locomotives)
(Diesel locomotives)

PUSHKAREV, I.F., inzh.; STREKOPYTOV, V.V., inzh.; KOVRIZHKIN, N.P., inzh.; KURBATOV, A.I., proyemshchik; KHATSKELEVICH, M.N., inzh.

Answering readers' queries. Elek.i tepl.tiaga 6 no.4:36-37 Ap '62. (MIRA 15:5)

1. Lokomotivnoye depo Leningrad-Baltiyskiy (for Kurbatov).
(Locomotives)

YURCHENKO, I.F.; KHATSKELEVICH, M.N., inzh.; TOLKACHEV, V.P., inzh.; KLIMOV, N.N., inzh.; MATVEYEV, P.M.; NOVIKOV, A.V., inzh.

Answers to readers' queries. Elek.i tepl.tiaga 6 no.2:44-45 F '62. (MIRA 15:2)

1. Nachal'nik upravleniya truda, zarabotnoy platy i tekhniki bezopasnosti Ministerstva putey soobshcheniya (for Yurchenko). 2. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodo-rozhnoy gigiyeny Glavnogo sanitarnogo upravleniya Ministerstva putey soobshcheniya (for Matveyev).
(Railroads)

REBRIK, B.N., kand.tekhn.nauk, starshiy nauchnyy sotrudnik; ZAV'YALOV, G.N.; VASHURIN, A.A., inzh.; KHATSKELEVICH, M.N., inzh.

Answering readers queries. Elek. i tepl.tiaga 6 no.8:42-44 Ag '62. (MIRA 17:3)

1. Otdeleniye elektrifikatsii Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Rebrik). 2. Glavnyy tekhnolog po avtotormozam Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya (for Zav'yalov).

PUSHKAREV, I.F., inzh.; ZASLAVSKIY, G.N.; KUZNETSOV, T.F., starshiy nauchnyy sotrudnik; KHATSKELEVICH, M.N., inzh.

Replies to the inquiries of our readers. Elek. i tepl. tiaga 6 no.10:35-36 O '62. (MIRA 15:11)

1. Zaveduyushchiy bazovoy teplovoznoy laboratoriyey Khar'kovskogo instituta inzhenerov zheleznodorozhnogo transporta im. Kirova (for Zaslavskiy).

(Diesel locomotives)
(Railroads--Rolling stock)

DUBROVSKIY, Z.M., inzh.; GUREVICH, A.N., kand.tekhn.nauk; KHATSKELEVICH, M.N., inzh.

Replies to the inquiries of our readers. Elek. i tepl. tiaga 6 no.11:42-43 N '62. (MIRA 16:1)
(Electric locomotives) (Diesel locomotives)

KHATSKELEVICH, M.N., inzh.; KLIMOV, N.N., inzh.

Replies to the inquiries of our readers. Elek.i tepl.tiaga 7 no.2:42 F '63. (MIRA 16:2)
(Railroads—Signaling—Centralized traffic control)

DZHAVAKHAYN, T.V., inzh.; KIDALINSKIY, L.P.; KHATSKELEVICH, M.N., inzh.; KLIMOV, N.N., inzh.

Reply to the inquiries of our readers. Elek. i tepl. tiaga 7 no.3:36-37 Mr '63. (MIRA 16:6)

1. Glavnyy inzh. Muromskogo zavoda im. F.E. Dzerzhinskogo (for Kidalinskiy).

(Electric railroads)

ZAV'YALOV, G.N.; KRYLOV, V.I.; OZOLIN, A.K.; RUDKOV, G.V.; KHATSKELEVICH, M.N., inzh.

Replies to the inquiries of our readers. Elek.i tepl.tiaga 7 no.1:43-44 Ja '63. (MIRA 16:2)

1. Glavnyy tekhnolog po avtotormozam Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey sobshcheniya (for Zav'yalov). 2. Nachal'nik tormoznoy laboratorii Moskovskogo tormoznogo zavoda (for Krylov). 3. Zamestitel' nachal'nika spetsial'nogo konstruktorskogo byuro Moskovskogo tormoznogo zavoda (for Ozolin). 4. Zamestitel' nachal'nika proyektno-tekhnologicheskogo otdela po remontu i ekspluatatsii teplovozov pri zavode im. Il'icha (for Rudkov).

(Railroads--Signaling) (Diesel locomotives)

KHATSKELEVICH, M.N., inzh.; KLIMOV, N.N., inzh.; NIKANOROV, V.A.

Replies to the inquiries of our readers. Elek. i tepl. tiaga 7 no.4:40 Ap '63. (MIRA 16:5)

1. Glavnyy inzhener Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey soobshcheniya (for Nikanorov).
(Railroads--Rolling stock)

KLIMOV, N.N., inzh.; PROKHOROV, A.A.; KHATSKELEVICH, M.N., inzh.; SAVEL'YEV, A.A., inzh.

Answering readers' queries. Elek. i tepl.tiaga 7 no.11:44 N '63. (MIRA 17:2)

1. Glavnyy sanitarnyy vrach zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Prokhorov).

KHATSKELEVICH, S.Ya. (Moskva, G-34, per. Ostrovskogo, d.20, kv. 7)

Case of osteoplastic sarcocarcinoma of the thyroid gland. Nov. khir. arkh. 5 no.:117-118 S-O '58. (MIRA 12:1)

1. Khirurgicheskoye otdeleniye 30-y Moskovskoy gorodskoy bol'nitsy (nauchnyy rukovoditel' - doktor med. nauk S.S. Avedisov).
(THYROID GLAND--SURGERY)

KHATSKELEVICH, S.Ya. (Moskva, pereulok Ostrovskogo, d.10 kv.7)

Nitrous oxide anesthesia under polyclinical conditions. Vest. khir. 91 no.9:97-100 S'63. (MIRA 17:4)

1. Iz khirurgicheskogo otdeleniya (zav. - doktor med. nauk S.S. Avedisov) 30-y bol'nitsy i 34-y poliklinniki (zav. otdeleniyem - I.M. Osnos, nauchnyy rukovoditel' - prof. I.S. Zhorov) Moskvy.

AVEDISOV, S.S., doktor med.nauk (Moskva, K-9, ul. Stanislavskogo, d. 12, kv.17)
KHATSKELEVICH, S.Ya.

Late posttransfusion complications in Rh incompatibility. Vest.khir. 81 no.8:100-101 Ag '58 (MIRA 11:9)

1. Iz khirurgicheskogo otdeleniya gorodskoy bol'nitsy No.30 g. Moskvy (gl. vrach N.L. Belyayeva).
(RH FACTOR
incompatibility in blood transfusion (Rus))
(BLOOD TRANSFUSION, compl.
posttransfusion reaction caused by Rh incompatibility (Rus)

AVEDISOV, S.S., doktor med.nauk; KHATSKELEVICH, S.Ya.

Benign nonepithelial tumors of the stomach. Sov.med. 25 no.1:108-115 Ja '61. (MIRA 14:3)

1. Iz khirurgicheskogo otdeleniya (zav. - doktor med.nauk S.S.Avedisov) 30-y gorodskoy bol'nitsy Moskvy (glavnyy vrach N.L.Belyayeva).
(STOMACH—TUMORS)

L 22713-66 EWT(1)/EWA(h)

ACC NR: AP6002933 (A) SOURCE CODE: UR/0286/65/000/024/0102/0102

AUTHORS: Khatskelevich, Ya. D.; Bulatov, V. K.; Popov, S. A.; Mityakov, A. I. 17

ORG: none

TITLE: A trigger for controlling relay-contact commutators. Class 42, No. 177159

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 102

TOPIC TAGS: relay system, electronic circuit reliability, commutator

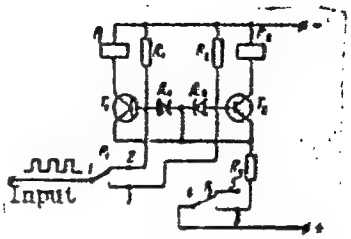
ABSTRACT: This Author Certificate presents a trigger for controlling relay-contact commutators. The trigger contains transistors with the windings of the relay in their collector circuit. The design increases the reliability of the trigger and reduces its response time. The bases of the transistors are connected with the contacts of one of the relays. This relay connects the input of the trigger to the bases of the transistors (see Fig. 1). The emitters of the transistors are joined together and are connected to the voltage source through a resistance and the contacts of the second relay. Diodes are connected between the base and the emitter of each transistor.

Card 1/2 UDC: 681.142:621.374.3

L 22713-66

ACC NR: AP6002933

Fig. 1. P_1 and P_2 - Relays; T_1 and T_2 - transistors; D_1 and D_2 - diodes; R_1, R_2 and R_3 - resistors; 1-3 - contacts of relay P_1; 4-6 - contacts of relay P_2.



Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 14May64

Card 2/2

KHATSKELEVICH, V. A.

The Application of Negative Feedback to Radio Transmitters Using Grid Modulation. S. I. Person and V. A. Khatskelevich. (Vestnik Elektro-prom. Sb. Tsna, No. 12, 1935 pp. 11-23)

The possibility is discussed of introducing negative feedback into grid modulated transmitters already in operation in Russia. Various types of feedback (over the modulator channel over the modulated high-frequency channel, and over both the high frequency and low-frequency channels) are considered. Phase and phase-frequency distortions thus introduced are examined, and measures to reduce these are suggested. The possibility of self excitation of the transmitter is discussed in detail, and in conclusion a brief report is given on an experimental investigation in which feedback over the high-frequency and low-frequency channels was employed.

PA 30/49T103

USSR/Radio Nov/Dec 48

Antennas - Constants
Resonance

"Investigation of Resonance and Asymmetry in Edkok's Antenna-Feeder Systems," A. Z. Fradin, V. A. Khatskelevich, Candidates Eng Sci, 22½ pp

"Radiotekh" Vol III, No 6

Presents sufficiently accurate investigation of resonance phenomena which occur in an Edkok [Edcock ?] symmetrical antenna-feeder system. Results enable some important amendments to existing concepts of these phenomena. Presents detailed investigation of the influence of asymmetry of individual elements of

30/49T103

USSR/Radio (Contd) Nov/Dec 48

the system on its resonances, and on distortions of the direction diagram. Analysis of the latter enables nature and magnitude of errors in operation of Edkok antenna-feeder systems, e.g., in direction finders, to be determined. Submitted 12 Jul 48.

30/49T103

KHATSKELEVICH, V. A.

KHATSKELEVICH, V. A. (Co-author)

See: PERSON, S. V.

Person, S. V. and Khatskelevich, V. A. - "Dynatron generation in high-power high- and low-frequency amplifiers and methods of combatting it," Sbornik trudov Leningr. elektrotekhn. in-ta svyazi im. Bonch-Bruyevicha, Issue 4, 1949, p. 14-29

SO: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).

KHATSKELEVICH, V. A. and FRADIN, A. Z.

"Symmetrical and Asymmetrical Adcock Antenna Feeder Systems," Sbornik Trudov LEIS imeni Bonch-Bruyevich, No 6, 1949.

T...NIYA I RASCHET ...
LAMPOVYKH ...

...ory and Design ...
Vacuum-Tube Power ...

By V.V. Pe...n, A.I. ...
V.A. ...

Published by "Sovet...

The authors ... the ...
engineers, who ...
theory and ...
general, and ...
a number of years ...
contributed to ...
amplitude-modula...
the present wor...

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000721910015-5"

without grid

original section dealing with several types

power amplifiers to drive

KHATSKELEVICH, V.A.; SHUR, L.M.

Envelope negative feedback in radio transmitting apparatus.
Elektrosviaz' 10 no.11:15-24 N '56. (MLRA 9:12)

(Radio--Transmitters and transmission)

KHATSKELEVICH, V.A.

CIRCUITS

"Construction of Envelope Feedback Loops in Radio Transmitting Apparatus," by V.A. Khatskelevich, L.M. Shur, Elektrosvyaz', No 7, July 1957, pp 26-33

Problems involved in the design of transmitter circuits with envelope feedback are considered, and the choice of the element of the feedback loop is analyzed. Some ideas are presented concerning a procedure for correcting the frequency characteristics of the loop so as to obtain effective envelope feedback. This work is a continuation of an article published by the authors in the November 1956 issue of Elektrosviaz'

Card 1/1

AUTHORS: Khatskelevich, V.A. and Shur, L.M.

TITLE: Compensation of Non-linear Distortions by Envelope Feedback in Radio-transmitting Equipment (Kompensatsiya nelineynykh iskazheniy protivosvyaz'yu po ogibayushchey v radioperedayushchikh ustroystvakh)

PERIODICAL: Elektrosvyaz', 1958, Nr 4, pp 8 - 15 (USSR).

ABSTRACT: Non-linear distortions in transmitting equipment are approximately compensated by feedback only at low and medium modulating frequencies. The degree of this approximation depends on the shape of the modulation characteristic which determines the spectrum of the original distortions and the possibility of their compensation by feedback (Refs 1 and2). Compensation of non-linear distortions is worse at high modulating frequencies and the greater the unevenness of the amplitude-frequency characteristic in the modulation frequency band, the worse the compensation. Under unfavourable conditions, feedback can increase the distortions even with a uniform amplitude-frequency characteristic. The amplitude-frequency characteristic of equipment with feedback (Figure 1) is first considered in its general form.

1) Starting with the formula for the transfer coefficient of

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apparatus with feedback:

$$\dot{k}_n = \frac{\dot{k}}{1 - \dot{k}\dot{\beta}}$$

and assuming that the degree of feedback is large ($|k\beta|_p \gg 1$), the characteristic can be given as:

$$y = \left| \frac{k_n}{k_{np}} \right| \approx \left| \frac{k}{k_p} \right| \left| \frac{|k\beta|_p}{|1 - \dot{k}\dot{\beta}|} \right| , \qquad (1)$$

where the index p refers to values appertaining to the mid-frequency of the working band.
The loop frequency characteristic can be formed in circuit $\dot{k}$ or $\dot{\beta}$, or in both circuits simultaneously and the characteristic will depend on which circuit of the loop is used to form the "cut-off" (Refs 3, 6).
Thus, if the cut-off is formed by the $\dot{\beta}$-circuit only, then

$$|k| = |k|_p = \text{const.}$$

and

$$y = \frac{|k\beta|_p}{v} \qquad (3)$$

where

$$v = \left\{1 + \left(\frac{|k\beta|_p}{z}\right)^2 + 2\,\frac{|k\beta|_p}{z}\cos\left[180^\circ(1-a)\right]\right\}^{1/2}$$

$$z = (x + \sqrt{x^2-1})^{2(1-a)}, \quad x = f/f_o,$$

f_o = the highest modulation frequency of the working band,

$a = \phi/180^\circ$ where ϕ is the phase stability margin.

When the cut-off is formed in the k-section only, i.e. when the β-circuit is not frequency conscious, we have:

$$|\beta| = |\beta|_p = \text{const}, \quad |k| = \frac{|k|_p}{z}$$

and:

$$y = \frac{1}{z} \frac{|k\beta|_p}{v} \qquad (4)$$

The author also shows how the amplitude-frequency characteristic of the circuits k and β can be obtained to give any particular shape of the overall amplitude-frequency characteristics with feedback.

2) Frequency characteristics for the apparatus, calculated by Formulae (3) and (4) with $|k\beta|_p = 10$ and $a = 1/6$ ($\psi = 30^\circ$) are produced in Figure 2. From Figure 2, it is seen that a peak occurs at frequencies near to $2f_0$, the value of which is much greater when the cut-off is formed by the

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Compensation of Non-linear Distortions by Envelope Feedback in Radio-transmitting Equipment

β-circuit (Curve 1) than when it is formed by the k-circuit (Curve 2). This fact is significant because in all practical cases, the modulating input voltage contains non-linear distortions. If, for example, the coefficient of the second harmonic of the input voltage at the highest working frequency comprises 1%, then when the cut-off is formed by the β-circuit, the corresponding voltage at the output becomes 20%, but when the cut-off is formed by the k-circuit, the corresponding output voltage is 2% only, the apparatus itself being considered perfectly linear in both cases.

It is obvious that, other conditions being equal, apparatus with the smallest peak in the amplitude-frequency characteristic beyond the limit of the working band, or with a falling characteristic in this region, is preferable. However, to reduce the distortions, it is not necessary to demand that the amplitude-frequency characteristic of the apparatus should not have a large peak or should be falling. This would introduce practical difficulties in its realisation. The problem is more easily solved by connecting in a filter Ø to limit the frequency band of the input voltage (Figure 1b). Because such

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a filter is not included in the feedback loop, the attenuation which it introduces at frequencies $f > f_0$ can be made sufficiently great to compensate for any rise in the amplitude-frequency characteristic of the apparatus.

3) The author next examines the effect of amplitude characteristics of parts of the loop and of the entire apparatus with feedback beyond the limits of the working band on non-linear distortions arising in the k-circuit (Figure 1b). The k-circuit here consists of two sections; linear k_1 and non-linear k_2. Non-linear distortions, arising in k_2, can be replaced by a "distortion generator" e_u, connected to the input to this part of the loop. It is assumed that the level of the useful output voltage $u_{вых}$, the e.m.f. e_u of the distortion generator and the voltage $u_{вх}$ at the input to k_2 remain constant and for simplicity only one distortion component is considered. Then:

$$k_f = \frac{|k_2|\ e_u}{|k_2|_p u_{Bx}} = y_2 N \text{ and } k_{fn} = \frac{\dfrac{|k_2|}{|1 - k_1 k_2 \beta|}\ e_u}{|k_2|_p u_{Bx}} =$$

$$= y_2 N \frac{1}{|1 - \bar{k}_1 \bar{k}_2 \dot{\beta}|} \qquad (7)$$

where $N = e_u/u_{Bx}$ is the coefficient giving the degree of non-linearity of the k_2 circuit; k_f and k_{fn} are coefficients of non-linear distortions at the output with and without feedback, respectively; $y_2 = |k_2|/|k_2|_p$ is the

amplitude-frequency characteristic of the k_2 circuit.

Thus, non-linear distortions at high frequencies depend on the frequency characteristic of the k_2 circuit in which they arise. Other conditions being equal, they will be less, the more sharply y_2 falls beyond the limits of the working frequency band.

Extra circuits with falling amplitude characteristics, connected after the apparatus, also reduce non-linear distortions at the output. In power modulators, a π-type low-frequency filter, formed by shunting the primary winding of the modulation transformer with a capacitor, would be such a circuit.

Assuming that the loop transfer coefficient $\dot{k}\dot{\beta} = \dot{k}_1\dot{k}_2\dot{\beta}$ changes according to a step cut-curve and using the previous denotations, from Eq.(7) we get:

$$k_{fn} = \frac{y_2 N}{v} \qquad (8)$$

Eq.(8) shows that k_{fn} does not depend on the amplitude-frequency characteristic of the k_1 and β-circuits. Therefore, distribution of correcting circuits between these parts of the loop will have no effect on the non-linear distortions.

4) To evaluate the feedback action, it is sufficient to compare non-linear distortions with feedback to distortions in the apparatus without feedback, other conditions remaining equal. The action of feedback on each component of the non-linear distortions can be obtained from Eq.(7) in the form:

$$D_m = \left(\frac{k_{fn}}{k_f}\right)_m = \frac{1}{\left|1 - \dot{k}\dot{\beta}\right|_m} \qquad (9)$$

where the index m denotes the number of the modulation frequency harmonic under consideration.

Eq.(9) remains true for all modulation frequencies. It shows that compensation of non-linear distortions by feedback

does not depend on the amplitude-frequency characteristics of the parts of the loop k_1, k_2, β and of the entire apparatus but is determined by the loop transfer coefficient only, $- k_1 k_2 \beta = k\beta$.

Using the equation for a step dislocation, from Eq.(9) can be found the relationship of the degree of compensation of distortion D_m on the modulating frequency. Two cases are distinguished:

a) the frequency of the harmonic concerned mf equals or is less than f_o. In this case, $|k\beta| = |k\beta|_p$ and with deep feedback, we obtain:

$$D_m \approx \frac{1}{|k\beta|_p} \qquad (10)$$

If the degree of feedback is small, then it is necessary to consider the change in the phase angle of the loop transfer coefficient with frequency. Within the limits of the

horizontal part of the amplitude-frequency characteristics of the loop this angle changes according to the law:

$$\varphi = -2(1 - a) \arcsin \frac{f_i}{f_o}$$

where f_i is the frequency under consideration, f_o is the cut-off frequency.
Also, after determination of $|1 - k\dot{\beta}|$, we obtain:

$$D_m = \frac{1}{\left\{1 + |k\beta|_p^2 + 2|k\beta|_p \cos\left[2(1 - a) \arcsin mx\right]\right\}^{1/2}} \qquad (11)$$

where $x = f/f_o$ and f is the modulation frequency for which the distortions are determined.
b) The examined frequency harmonic mf is greater than f_o.
Then:

$$|k\beta| = \frac{|k\beta|_p}{\left[\frac{mf}{f_o} + \sqrt{\left(\frac{mf}{f_o}\right)^2 - 1}\right]^{2(1-a)}}, \quad \arg(\bar{k}\bar{\beta}) = -180^\circ(1-a)$$

and:

$$D_m = \frac{1}{\left\{1 + \left(\frac{|k\beta|_p}{z_m}\right)^2 + 2\,\frac{|k\beta|_p}{z_m}\cos\left[180^\circ(1-a)\right]\right\}^{1/2}} \qquad (12)$$

where:

$$z_m = \left[mx + \sqrt{(mx)^2 - 1}\right]^{2(1-a)} \quad \text{and} \quad x = f/f_o .$$

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From Eq.(12), it is seen that values $D_m > 1$ are possible, i.e. feedback can produce an increase in the harmonics instead of compensating them.
Maximum D_m will be obtained at a modulation frequency determined by:

$$z_{m\ max} = \frac{|k\beta|_p}{-\cos\left[180^\circ(1-a)\right]} \qquad (13)$$

when:

$$D_{m\ max} = \frac{1}{\sin\left[180^\circ(1-a)\right]} \qquad (14)\ .$$

If the phase stability margin is taken $a = 1/6$ $(\psi = 30^\circ)$ then, from Eqs.(13) and (14), we find:

$$D_{m\ max} = 2, \quad z_{m\ max} = \frac{2}{\sqrt{3}}|k\beta|_p \text{ and } (mx)_{max} = \frac{z_{m\ max}^{3/5} + z_{m\ max}^{-3/5}}{2}\ .$$

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Compensation of Non-linear Distortions by Envelope Feedback in Radio-transmitting Equipment

With a smaller stability margin, increase of non-linear distortions will be more significant.
Turning to Figure 3, where the curve of the step cutoff $|k\beta|$ is shown as a function of z, $|k\beta| = |k\beta|_p / z$, it is easy to believe that the point $z_{m\ max}$ is actually situated in the limits of the falling part of the dislocation characteristic, if the phase stability margin is taken as $a = 1/6$ and the amplitude stability margin $b \geqslant 1.2$ db $\left(|k\beta|_{zan} \leqslant \sqrt{3}/2 \right)$.

Thus, change of the loop transfer coefficient after frequency f_o in accordance with the curves of an ideal dislocation leads to increase of harmonics of the modulation frequency, falling in the region of frequencies close to $z_{m\ max}$. If these harmonics comprise a significant part of the distortions in the apparatus without feedback, then connection of feedback will lead to an increase of non-linear

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distortions.
In Figure 4 are produced Curves $D_m = f(mx)$, calculated by Eqs.(11) and (12) with $a = 1/6$ and two values of feedback $|k\beta|_p = 20$ db and 26 db. From the figure, it is seen that, in the first case, only those harmonics which fall in the region of frequencies $mx < 1.61$ are compensated and, in the second case, this region is extended to $mx < 2.30$. The necessary value of the margin can be found from Eq.(12) by giving a value to D_m at the frequency $f_{p\ max}$. So, if it is required that at frequency $f_{p\ max}$ the feedback neither increases nor compensates the distortions, i.e. $(D_m)_{f=f_{p\ max}} = 1$ then with $a = 1/6$, we obtain:

$$\frac{f_o}{f_{p\ max}} = \frac{2m}{\left(\frac{|k\beta|_p}{\sqrt{3}}\right)^{3/5} + \left(\frac{|k\beta|_p}{\sqrt{3}}\right)^{-3/5}} \qquad (15)$$

Assuming that $(D_m)_{f=f_{p\ max}} = 0.5$, i.e. demanding that at the highest modulation frequency the feedback reduces the harmonic, producing the distortions, twofold then:

$$\frac{f_o}{f_{p\ max}} = \frac{2m}{\left(\frac{2|k\beta|_p}{\sqrt{3}+\sqrt{15}}\right)^{3/5} + \left(\frac{2|k\beta|_p}{\sqrt{3}+\sqrt{15}}\right)^{-3/5}} \qquad (16) .$$

Results of calculations by Formulae (15) and (16) for the two values of m and $|k\beta|_p$ are given in the table. The relationships produced and the data of the table allow the frequency band margin necessary to ensure effective action of feedback at all frequencies to be found approximately.

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Compensation of Non-linear Distortions by Envelope Feedback in Radio-transmitting Equipment

There are 4 figures, 1 table and 6 Soviet references.

SUBMITTED: June 8, 1957

Card 17/17 1. Radio transmitters--Distortion 2. Feedback amplifiers--Applications 3. Mathematics--Applications

KANTOR, L.; KHATSKELEVICH, V.; SHUR, L.

Letters to the editors. Elektrosviaz' 12 no.12:74-75 D '58. (MIRA 11:12)

(Radio--Transmitters and transmission)

82842

S/111/60/000/006/002/002
B019/B058

6.4500

AUTHORS: Khatskelevich, V. A., Docent, Candidate of Technical Sciences, Yakovlev, L. N., Engineer

TITLE: An Instrument for Measuring the Input Resistance of Broadcasting Antennas for Long and Medium Waves

PERIODICAL: Vestnik svyazi, 1960, No. 6, pp. 12 - 14

TEXT: An instrument is described here with which the reactive and active component of the internal resistance of an antenna-feeder device in the range of from 10 to 100 ohms may be determined. The wave range is between 200 and 2,000 m. It operates by the resonance method and consists of a generator, a power amplifier, a measuring circuit and 2 indicators. The block diagram is shown in Fig. 1, the detailed diagram in Fig. 2. The weak generator operates with an inductive feedback, the power amplifier is a cathode follower and the measuring circuit is connected with the power amplifier by a high-frequency transformer. The parasitic capacitances are the main cause of errors of measurement and their reduction through constructional measures is discussed. The measuring

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An Instrument for Measuring the Input Resistance of Broadcasting Antennas for Long and Medium Waves

S/111/60/000/006/002/002
B019/B058

circuit is provided with a resistance box and the authors discuss the construction in detail. The capacitance box is also described in detail. The voltage at the primary coil of the transformer and the tuning are measured by the 2 indicators. The rectifier circuit (Fig. 4) is discussed next, the measuring process is described finally, and some practical advice is given. A checkup in a laboratory produced satisfactory results. There are 5 figures.

ASSOCIATION: LEIS (for) V. A. Khatskelevich

Leningrad Electrical Eng. Inst. of Communications

Card 2/2

KHATSKELEVICH, Viktor Abramovich; FOMICHEV, I.N., otv. red.; LIBERZON, L.G., red.; ROMANOVA, S.F., tekhn. red.

[Calculation of the performance of new generator triodes] Raschet rezhimov novykh generatornykh triodov. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1961. 48 p. (MIRA 15:2)

(Oscillators, Electron-tube)
(Triodes)

31205

S/106/61/000/012/009/010
A055/A127

9,2510 (1003, 1020, 1067)

AUTHORS: Khatskelevich, V. A., Benben, G. V.

TITLE: Increasing the power amplification factor of the transmitter stages

PERIODICAL: Elektrosvyaz', no. 12, 1961, 62 - 64

TEXT: The number of h-f stages of a transmitter can be reduced by increasing as far as possible the power amplification factor of the last stages. For long and medium waves, using the common-cathode arrangement, it is still recommended to choose the power amplification factor K_p of a triode amplifier stage about equal to 10, i.e.:

$$K_p = \frac{P_{\sim ampl}}{P_{\sim exc}} \approx 10, \qquad (1)$$

$P_{\sim ampl}$ being the oscillating power of the amplifier, and $P_{\sim exc}$ the power of its exciter. In the case of multigrid amplifier tubes, $K_p \approx 15 \div 20$ etc. However, the "concealed power" in the tubes is such that it is sometimes possible to increase considerably the amplification factor and to bring it to 100, and even more instead of 10. Particularly important, from this point of view, is the calculation of the amplifier grid-circuit, especially in the case of new tubes. For this

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S/106/61/000/012/009/010
A055/A127

Increasing the power amplification factor...

calculation, the authors refer to the method of V. A. Khatskelevich [Ref. 3: "Elektricheskiy raschet rezhimov novykh generatornykh triodov" ("Electric calculation of the operating conditions of new oscillator tubes"), Radiotekhnika, 1959, no. 3]. This method, developed for new triodes, can also be applied to other tubes, and particularly to tubes of older types; it is sufficient to change the empiric correction coefficients and to state:

$$k_{0g} \approx 0.35 \div 0.55, \quad k_{1g} \approx 0.4 \div 0.6. \qquad (3)$$

The greatest effect, as regards the increase of K_p, can be obtained with tubes having a small grid current, for instance the older types "Г-433" ("G-433") and also some of the more recent types, such as "ГУ-4А" (GU-4A), "ГУ-89А" (GU-89A) etc. The experimental check of the possibility of obtaining high values of K_p was therefore carried out with such tubes. A medium-wave 7-stage AM-transmitter with grid-bias-modulation in the stage preceding the penultimate one was used in the tests (the three last stages were push-pull stages). The last stage (amplifier of modulated oscillations) contained 6 "G-433" tubes giving an oscillating power $P_{\sim T} \approx 100$ kw in the telephone point, and a power $P_{\sim max} = 4P_{\sim T} \approx 400$ kw in the peak point (at m = 1). The penultimate stage contained two 20 kw-"Г-431" (G-431) tubes,

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Increasing the power amplification factor...

and the grid-bias modulation stage two 3 kw-"ГК-3000" (GK-3000) tubes. The tubes of the last and penultimate stages satisfied, according to their rated characteristics, the condition $K_p \approx 10$. Calculation showed however the existence of a very great "power reserve" in these stages. A new penultimate stage was therefore designed, using four 750 watt-"ГУ-80" (GU-80) tubes (operating in push-pull also). Even at a screen-grid voltage $E_{g2} \approx 500$ v (instead of the rated 600 v), this new penultimate stage permitted easily the former operation of the last stage. The power of the penultimate stage in the "telephone point" being $P_T \approx 600$ watts, the power amplification factor of the last stage was

$$K_p' = \frac{P_{\sim T} \text{ last st.}}{P_{\sim T} \text{ penult. st.}} \approx \frac{100 \cdot 10^3}{600} \approx 170 \qquad (!!)$$

There are 3 figures and 3 Soviet-bloc references. The following names of Soviet-bloc authors or scientists are mentioned in the article: A. M. Pisarevskiy, I. E. Sirokin and E. I. Belen'kiy.

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